

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Algirdas A. Underys)
)
Serial No.: 08/991,113)
)
Filing Date: December 16, 1997)
)
Title: Heat Treatment Method and)
Apparatus)

Attention:

Primary Examiner
Wyszomierski

Group 1742

#18
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6/1/00

The Honorable Commissioner
of Patents and Trademarks
Washington, DC 20231

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LETTER

This Letter is filed following the May 2, 2000 telephone conference between the Examiner and the undersigned from which the undersigned understood that the Examiner would consider a further submission short of an appeal brief.¹

Allowable subject matter has been indicated to be present by the Examiner.

All prior art rejections have been withdrawn.

The claims in issue, 4, 6-9 and 15-18, stand rejected under 35U.S.C.112 on the ground of new matter. The specific basis for the new matter rejection is whether the application as filed disclosed support for (a) the word "block" and (b) the phrase "maintaining stationary".

¹ The application has been appealed and the current deadline for filing the appeal brief is June 3, 2000.

History of the Term "Block"

The Heat Treatment Method and Apparatus invention of the application is "described ... as applied to ferrous metallurgy and specifically the heat treatment of tool steels.", specification page 1 (hereafter "p. __"), and the specification as filed included:

"Thus if two inch thick rods are to be heat treated a relatively short treatment period may be all that is required and in all probability the time curves already formulated for two inch workpieces in existing furnaces can be used in an infrared furnace. By the same token, if a 10" by 10" cross section is to be heat treated a substantially longer processing time will be required due to the time lag of the temperature rise in the center of the workpiece." p. 4.

In the **Amendment** of March 19, 1999, applicant amended the above quoted second sentence to read:

"... By the same token, if a block having a cross-section ..." p. 4, line 6.

In addition, claim 15 was added which began:

"15. In a method of heat treating bars, blocks and other tool steel workpieces the steps of ... "

and claim 16 was added which began:

"16. In a method of heat treating bar, block and other tool steel workpieces the steps of ..."

The amendment was entered.

In the **Final Rejection** of May 27, 1999, the Examiner stated:

"2. The amendment filed March 19, 1999 is objected to under 35U.S.C.132 because it introduces new matter into the

disclosure. 35U.S.C.132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

a) The matter inserted into page 4, line ... 6 of the specification relating to treatment of ... a "block" as well as its incorporation into new claims 15 and 16 ... Applicant is required to cancel the new matter in the reply to this Office Action."

Thereafter the Examiner quoted the first paragraph of 35U.S.C.112 and then said:

"4. Claims 4, 15, 16 and 17 are rejected under 35U.S.C.112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, nothing in the specification as originally filed related to treatment of a ... block ... Therefore, claims 15 and 16, and any claims dependent therefrom, are rejected under this statute."

The **Amendment** of June 21, 1999 included the Declaration of Guy A. Brada, a man with a master's degree and nine years relevant experience in the relevant art culminating in his current position of Chief Metallurgist of one of the foremost low alloy steel makers in the world², in which he stated:

"7. In my opinion viewing the application as a man skilled in the art, the original text of the specification unmistakably conveys to me the descriptive word "bars" in line 3 and "block" in line 6. Specifically, the application is directed to tool steels, and that term instantly connotes material widely and

²Since the Examiner has not contended that Mr. Brada is not a man skilled in the relevant art, we take it as settled that it is considered by the Office that Mr. Brada is a man skilled in the relevant art.

conventionally understood by all persons in the industry to mean steel in the form of bars, rods and blocks. Indeed "rods" and "bars" are conventionally interchangeably used to describe pieces in which the length is a large multiple of the maximum cross section, whether the cross section be round, square, hexagonal or any other shape. By the same token, the word "blocks" is unmistakably described in the original disclosure in addition to its universally understood meaning of being described by the words "tool steels". Specifically, in lines 3-5 of page 4 a specific reference is made to rods and bars in which length is always a large multiple of width in the context of the ability to use already formulated time curves for treatment periods. Then in contrast to this general description of large length workpieces, products which have a short, or less than 1, multiple of length to width are next disclosed as introduced by the phrase "By the same token", lines 5 and 6. Even more specifically, the statement "10" by 10" cross-section" only means, to me, a block or similar large, low length to width multiple workpiece. Indeed, I cannot recall ever having seen or heard of a rod or bar which has a 10" by 10" cross section. While such may exist in some publication, I state that, in the art, a description of a 10" by 10" cross section is understood to mean a block or other similar low length to width multiple shape.

In the **Advisory Action** of June 28, 1999, the Examiner agreed that "bars" had been originally disclosed even though not specified by that term but, with respect to "blocks", stated:

"4. The affidavit ... has been considered but does not overcome (the rejection) because no convincing showing has been made that the features alleged to be new matter would have been considered disclosed by the original specification to a person of ordinary skill in the art."

In the **Supplemental Amendment** of August 10, 1999, Brada, in a Supplemental Declaration, called the Examiner's attention to a drawing in the Iron & Steel Industry's

official publication, "Steel Products Manual", which showed rods, bars and blocks. Applicant's attorney called the Examiner's attention to MPEP 716.01 (Rev. 1995) and requested a specific explanation of why no convincing showing had been made. In response, in the **Office Action** of August 13, 1999, the Examiner concluded "that the original disclosure of "tool steel" (in general) in the specification as filed does not convey the essence of the specific term "block"."

In the **Second Supplemental Amendment** of September 27, 1999, Mr. Leonard Liuzzi, a man with over forty years of high level executive experience in the relevant art, the tool steel industry, stated in his Declaration filed therewith:

"4. My attention has been particularly directed to the specification as filed and particularly to the text near the top of page 4 which reads as follows:

"Thus if two inch thick rods are to be heat treated a relatively short treatment period may be all that is required and in all probability the time curves already formulated for two inch thick workpieces in existing furnaces can be used in an infrared furnace. By the same token, if a 10" by 10" cross-section is to be heat treated a substantially longer processing time will be required due to the time lag of the temperature rise in the center of the workpiece."

5. With respect to the foregoing passage I was requested to state my understanding, as a man skilled in the art, of what object was being described in the last sentence of said passage, namely:

"By the same token, if a 10" by 10" cross-section is to be heat treated a substantially longer processing time will be required due to the time

lag of the temperature rise in the center of the workpiece."

6. In my opinion the passage set out in paragraph 5 above describes a block since it is the common and universally accepted practice to describe a block by quoting width and height dimensions; i.e.: the phrase "10" x 10"" can only mean a block. Here, I understand the text to refer to a piece of tool steel being 10" wide by 10" high by some indefinite length, most likely either 10" or a value near thereto. Even if the length dimension was many feet, I understand a block is still being described since I have never heard of a 10" x 10" rod or bar; such a cross-section dimension far exceeds the cross-section dimensions of a rod or bar.

In the **Advisory Action** of November 3, 1999, the Examiner stated:

"5. The affidavit ... will not be considered because applicant has not shown good and specific reasons why it was not earlier presented. Further affidavit appears to be largely opinion of third party, i.e. no actual equivalence shown between terms used in original specification and terms currently present in claims."

Argument on the "Block" Issue

The "block" issue resolves to whether a man skilled in the tool steel industry, when reading a patent specification which discusses heat treatment of two inch thick rods and bars, and then immediately thereafter states, "By the same token, if a 10" by 10" cross-section is to be heat treated a substantially longer processing time will be required due to the time lag of the temperature rise in the center of the workpiece," would understand that heat treatment of blocks as well as rods and bars was the subject of discussion. The Examiner does not believe so. The applicant strenuously disagrees.

The MPEP, at 608.01(g) Detailed Description of the Invention³ states:

"The detailed description, required by 37 CFR 1.71, MPEP § 608.01, must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the invention without involving extensive experimentation. An applicant is ordinarily permitted to use his or her own terminology, as long as it can be understood."

The latitude granted to an applicant in claiming his invention is further explained in MPEP

2173.01 Claim Terminology, which states:

"A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art. Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought."

The permission obviously applies with equal applicability to describing the invention. Here applicant has used (as is made clear from the Brada and Liuzzi declarations discussed hereafter) a style of expression which makes clear the boundaries for which protection is sought; i.e.: the commonly used, industry-wide shorthand expression of "a 10" by 10" cross-section" instead of the more cumbersome expression "a block having a 10" x 10" cross-section." The language usage is in all respects equal to a pair of automobile collectors who, in discussing their recently acquired automobiles with one another say, "is it a 6 or an 8", not "is it a six cylinder engine or an eight cylinder engine". In the present situation, when a man

³7th Edition, Revision 1 of February, 2000, unless otherwise indicated.

skilled in the tool steel industry discusses heat treating a "10" by 10" cross-section" he clearly and unmistakably conveys to his listener that a "block" is being described.

Specific support, in addition to the application of common sense and the doctrine of giving words their ordinary and reasonable meaning, is unequivocally found in the record in the form of declarations of Brada and Liuzzi who have, between them, 50 or more years experience in the tool steel industry. Brada stated as a fact, not an opinion:

"... in the art, a description of a 10" by 10" cross-section is understood to mean a block ..."

Liuzzi stated, just as unequivocally:

"... it is the common and universally accepted practice to describe a block by quoting width and height dimensions; i.e.: the phrase "10" by 10"" can only mean a block."

He went on to say:

"Even if the length dimension was many feet, I understand that a block is still being described since I have never heard of a 10" x 10" rod or bar; such a cross-section dimension far exceeds the cross-section dimensions of a rod or bar."

These are statements by persons who are admittedly skilled in the art and are the ultimate authority on the issue; there are no tool steel industry dictionaries or encyclopedias which include an entry to the effect that the use of a height and width dimension in conjunction with the word "cross-section" does, or does not, mean a block. We are dealing with the everyday lingo of the trade, and no more authoritative source can be visualized than two honorable, highly qualified persons of ordinary skill in the trade such as Brada and Liuzzi.

Further MPEP 2163.04 states:

"Accordingly, the examiner should ... fully explain the basis for the examiner's finding. The examiner also should comment on the substance of applicant's remarks. Any affidavits attesting to what one of ordinary skill in the art would consider disclosed by the application as originally filed must be thoroughly analyzed and discussed in the Office action."

The Examiner did not agree with, indeed did not even comment on, Brada's statement "... a 10" by 10" cross-section is understood to mean a block ..." and thus, because of the Examiner's failure to follow the Manual, applicant has not been informed of the Examiner's technical basis for rejection.

In the May 27, 1999 Final Rejection the Examiner's statement on the "block" issue is found in his paragraph "4.", namely, "Specifically, nothing in the specification as originally filed related to treatment of a bar or block". Applicant thereafter filed the June 21, 1999 Brada declaration which included his "10" by 10" cross-section is understood to mean a block" statement.

The Examiner's June 28, 1999 response was simply "... no convincing showing has been made that the features alleged to be new matter would have been considered disclosed by the original specification to a person of ordinary skill in the art". By making this statement the Examiner "did not fully explain the basis for the Examiner's finding" mandated by MPEP 2163.0; indeed, the Examiner's action did not comply with MPEP 716.01(a):

"Where the evidence is insufficient to overcome the rejection, the Examiner must specifically state why the evidence is insufficient. General statements ... without an explanation supporting such findings are insufficient." (emphasis ours)

Further, the Examiner failed to heed 2163.04's admonition to "... comment on the substance of applicant's remarks". And most glaring of all failings, the Examiner did not comply with 2163.04's mandate that:

"Any affidavits attesting to what one of ordinary skill in the art would consider disclosed by the application as originally filed must be thoroughly analyzed and discussed in the Office Action." (emphasis ours)

Indeed this situation has been emphasized by court decisions set out more fully in MPEP 2164.05(a) of which the following is representative:

"... it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure." (underlining ours)

In re: Marzocchi, 439 F.2d 220 at 224, 169 USPQ 367 at 370 (CCPA 1970).

Having in mind that the Examiner's "no convincing showing" position in respect of the initial Brada affidavit may have been based on the fact that Brada, though the Chief Metallurgist of one of the world's leading tool steel companies, represented only nine years of post-education experience, the applicant promptly filed on September 27, 1999 the declaration of Leonard Liuzzi, a tool steel industry participant of more than forty years experience. Liuzzi said:

"Here, I understand the [original] text to refer to a piece of tool steel being 10" wide by 10" high by some indefinite length, most likely 10" or a value near thereto. Even if the length

dimension was many feet, I understand a block is still being described since I have never heard of a 10" x 10" rod or bar; such a cross-section far exceeds the cross-section dimensions of a rod or bar."

The Examiner's response of November 3, 1999 contains the same failures to comply with MPEP 2163.04 and 2164.05(a) as his response to the initial Brada affidavit did; his statement:

"Further, affidavit appears to be largely opinion of third party, i.e., no actual equivalence shown between terms used in original specification and terms currently present in claims ..."

is simply not reasonable, nor fair to applicant, in view of the explicit factual statements to the contrary in Liuzzi's precise and focused declaration and the mandates of the MPEP.

In Summary on the "Block" Issue

The Examiner's repeated failures to "fully explain" the basis for his position by "specifically stating" why applicant's evidence of original disclosure support is insufficient and his lack of "comment(s) on the substance of applicant's remarks"⁴ do not supply a sufficient foundation for a 35U.S.C.112 new matter rejection of claims 4, 6-9, and 15-17.

History of the Phrase "Maintaining Stationary"

The specification, as filed, disclosed maintaining the pieces of tool steel to be heat treated in a stationary position during heat treatment on all pages as will be apparent from the hereafter following discussion of the Liuzzi declaration.

The issue arose when the Examiner, in the Office Action of December 11, 1998,

⁴Mandated by MPEP 2163.04.

rejected claims on the Heath patent 4,620,884. Heath showed subjecting a moving "heat treatable strap-like material" of "a strap gauge of 0.015" to 0.03" at "Typical strap speeds of 110 to 150 feet per minute" through a "heat zone".

In applicant's response of March 19, 1999 applicant added claims 15 and 16 which included the phrase "maintaining said tool steel workpiece stationary" to distinguish over Heath's movable strap-like material and distinguished Heath by the comments:

"All this is encompassed within applicant's claims by the specification of bar, block and other tool steel workpieces which, further, are maintained stationary during subsection of the workpiece to heat treatment from the infrared energy source.

In sum, Heath deals with a product different from applicant's product, the two products having very different thermal characteristics. Indeed the processes are so different that to apply Heath's teaching of impacting thin, rapidly moving strip with infrared energy at a continuous high value would prove disastrous if applied bodily to applicant's massive workpieces (by contrast), and the claims set forth this distinguishment." (p. 5)

In the Final Rejection of May 27, 1999, the Examiner withdrew his art rejection on the Heath patent. He then objected to the "maintaining" step in the disclosure under 35U.S.C.132 and rejected "claims 15 and 16, and any claims dependent therefrom" under 35U.S.C.112, first paragraph.

Applicant's June 21, 1999 response to the final rejection included the argument:

"With respect to the comment directed to "maintaining", we believe the condition explicitly described by the word is so clear as not to require the effort of a further declaration. In essence, tool steels are always treated in a stationary condition; by nature they are too big and bulky and difficult to handle to treat in any

other way, and no reason to treat a 100 pound or 10,000 pound bar, rod or block in any condition except in a stationary condition can be envisioned. As before, the concept of the workpieces being treated in a stationary condition is so clearly apparent to a man skilled in the art reading the specification that, to the scrivener writing a description of the invention, the need to use the word would not occur since it is inevitably assumed. Hence the withdrawal of the objection in paragraph 2. is respectfully submitted to be appropriate.

By like token, the 35U.S.C.112 rejection has been overcome."
(pp. 2-3)

Applicant believed that the fact that the bars and rods and blocks were maintained stationary during heat treatment was so patently obvious to a man skilled in the art that the effort involved in preparing Rule 132 affidavit support was not justifiable; it was analogous to requiring an applicant of a navigation device to use the words that the sun rises in the east; it is simply not necessary because everyone knows it -- it is understood without verbalizing.

To applicant's surprise, the Examiner maintained the 112 "maintaining stationary" rejection in the June 28, 1999 Advisory Action.

Applicant's August 10, 1999 response requested the Examiner to specifically state the basis for his position by making specific reference to MPEP, 716.01, page 700-40, Rev. 1 Sept. 1995 since to that point in time applicant's contentions on the "maintaining stationary" issue in its June 21, 1999 amendment had not been addressed by the Examiner.

When the Examiner's August 13, 1999 Advisory Action stated that the unsupported rejection of "maintaining ... stationary stands", applicant promptly filed the declaration of Leonard Liuzzi which states:

"9. In my opinion the application as filed discloses the concept of maintaining the tool steel workpieces stationary during heat treatment. My opinion is based on the following:

a. Each of the three paragraphs on page 1 of the specification are directed to processing in which the tool steel workpiece is maintained stationary during heat treatment.

Specifically, "heat treatment of tool steels" always means to me, unless there is a specific statement to the contrary, a furnace or other piece of capital equipment in which the workpieces are held stationary during treatment. This meaning to me, as a man skilled in the art, is reinforced by the phrase "currently employed heat treatment ... apparatus" in paragraph 1.

Since a thin flexible strip of metal which can be subjected to heat while moving is never machined, the reference to "machining" in paragraph 2. can refer, in the sense of the smallest size of a tool steel workpiece, to only a rod or bar, and I have never heard of heat treating a moving rod or bar.

The reference to "decarburized" in paragraph 3. can only refer to a stationary workpiece, since decarburizing is not a quick process; at least a substantial number of minutes and very often at least a half an hour, is required to decarburize.

b. The reference to "vacuum furnaces" on page 2. always means, in my experience, a furnace in which the workpiece is maintained stationary.

c. The statement on page 3:

"With respect to equipment it is believed that existing heat treatment furnaces can be used with

little or no modification, or,
preferably, with selective
modification" (emphasis mine)

clearly describes to me a furnace in which the workpiece is maintained stationary. This is further emphasized by the sentence in the next paragraph:

"A thin coating of gold, or silver, or aluminum over some or substantially all of the interior surfaces of the furnace will be quite suitable."

Obviously the gold, silver or aluminum coating is needed because, after a short while, a stationary workpiece begins to reflect energy back to its immediate surroundings at dangerous levels, a condition which would not occur were the workpiece being moved through the furnace thereby constantly presenting fresh, cold metal to the heat source in the furnace.

d. The reference on page 3 to placing "the workpieces ... as close together as convenient" discloses to me a series of two or more separate workpieces, not a moving strip.

e. The further reference to "Ceramic or other high melting point support structures ... to support the workpieces" discloses to me stationary support structures, since I have never heard of a movable ceramic support structure in a heat treat furnace, and stationary support structures can only be associated with stationary workpieces.

f. The phrase:

"Then if two inch thick rods are to be heat treated a relatively short treatment period may be all that is required and in all probability the

time curves already formulated for
two inch thick workpieces in
existing furnaces can be used ..."
(emphasis mine)

can only refer to stationary workpieces since the
already formulated time curves can refer only to
time curves in existing stationary treatment
furnaces."

Argument on the "Maintaining ... Stationary" Issue

The "maintaining ... stationary" issue resolves to whether a man skilled in the tool steel industry, when reading a patent specification pertaining to heat treatment of tool steels, every page of which describes the condition of maintaining a workpiece stationary without using those explicit words, would understand that processing was being described of a workpiece which was being maintained stationary during heat treatment thereof.

The written record indicates the Examiner agreed that disclosure was originally made of workpieces being maintained stationary since he withdrew his prior art rejection which was based on a Heath patent showing heat treatment of moving steel. Applicant's sole argument in distinguishing Heath was that the prior art only disclosed a moving workpiece in contrast to applicant's stationarily maintained workpiece. And yet, the Examiner has persisted in rejecting the claims containing "maintained stationary" on the basis that that condition was not originally disclosed. The Examiner's position is illogical.

The MPEP, at 608.01(g) Detailed Description of the Invention" states:

"The detailed description, required by 37 CFR 1.71, MPEP § 608.01, must be in such particularity as to enable any person skilled in the pertinent art or science to make and use the

invention without involving extensive experimentation. An applicant is ordinarily permitted to use his or her own terminology, as long as it can be understood."

The latitude granted to an applicant in claiming his invention is further explained in MPEP

2173.01 Claim Terminology, which states:

"A fundamental principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose so long as the terms are not used in ways that are contrary to accepted meanings in the art. Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought."

Here, following the Examiner's May 27, 1999 statement that "... nothing in the specification as originally filed indicated that one maintains a workpiece stationary during heat treatment ...", a declaration was filed by a man with forty or more years experience in the art which pointed out language on each page of the specification as filed that conveyed to him the meaning that the workpiece was maintained stationary. The Examiner's November 3, 1999 response "... affidavit appears to be largely opinion of third party; i.e.: no actual equivalence shown between terms used in the original specification and terms currently present in the claims" is unsupportable on the facts, given the precise, page by page analysis by Liuzzi, and erroneous as a matter of law. Specifically, the Examiner has failed to comply with (a) MPEP 2163.04 which states:

"Accordingly, the examiner should ... fully explain the basis for the examiner's finding. The examiner also should comment on the substance of applicant's remarks. Any affidavits attesting to

what one of ordinary skill in the art would consider disclosed by the application as originally filed must be thoroughly analyzed and discussed in the Office action."

He further failed to comply with (b) MPEP 716.01(a) which states:

"Where the evidence is insufficient to overcome the rejection, the Examiner must specifically state why the evidence is insufficient. General statements ... without an explanation supporting such findings are insufficient." (emphasis ours)

and with (c) MPEP 2163.04 which states:

"Any affidavits attesting to what one of ordinary skill in the art would consider disclosed by the application as originally filed must be thoroughly analyzed and discussed in the Office Action." (emphasis ours)

To the same effect is court authority:

"... it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain *why* it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure." (emphasis ours)

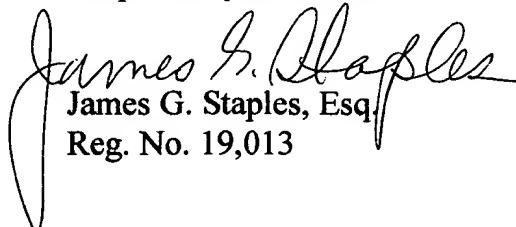
In Summary on the "Maintaining ... Stationary" Issue

The Examiner's failure to "fully explain" the basis for his position in light of the uncontroverted evidence to the contrary represented by the original disclosure and the Liuzzi affidavit as to why the original disclosure does support the "maintaining ... stationary" phrase does not comply with the mandates of the MPEP and hence do not supply any foundation for a 35U.S.C.112 rejection of claims 15, 4, 6, 7, 8, 9, 16 and 17.

Conclusion

Withdrawal of the 35U.S.C.112, first paragraph rejection is not sustainable and should be withdrawn.

Respectfully submitted,


James G. Staples, Esq.
Reg. No. 19,013

A. Finkl & Sons Co.
2011 North Southport Avenue
Chicago, IL 60614
(773) 975-2235
(773) 975-2636 (fax)